

Jacques Monod, scientist, humanist, and friend

S. E. Luria
Massachusetts Institute of Technology
Cambridge, Massachusetts 02139

He had to choose. But it was not a choice
Between excluding things. It was not a choice

Between, but of. He chose to include the things
That in each other are included, the whole,
The complicate, the amassing harmony.

Wallace Stevens

It may seem strange that I should have thought of Jacques Monod as my closest friend even though we lived thousands of miles apart, met only sporadically, and never actually worked together. Ours was a friendship of choice rather than of familiarity. If we had lived in the 18th century instead of the 20th, as I am sure we would both have liked, we might have produced a body of written correspondence, which would now be left for me to reminisce with and perhaps for someone to turn into a Ph.D. thesis. But we did live in our time, the time of telephone and airplane, a time that has made letter writing obsolete. Ours were exciting but tormented times, times in which deep friendships are rare and precious.

I first met Jacques in 1946 at Cold Spring Harbor. Immediately I admired his mind, his delight in elegant science. Also I was struck by his unhesitating humanitarian instincts. I recall that there was in Cold Spring Harbor the family of a German-American

scientist, desperately worried about the fate of some relatives in French-occupied Germany. When Jacques was appraised of it he immediately undertook (I believe successfully) to help reestablish connections between the members of this family. The former resistance fighter would readily ignore the past enmity when there was a chance of helping some human beings.

Jacques and I met again briefly a number of times in the following years. I recall a visit of Jacques to Urbana, Illinois, in the early 1950's, in the course of which we talked of enzyme induction and of host-induced phage modification. A visit of Jacques to MIT in 1958 had a more significant impact for me, as we then planned a visit of my own to the Institut Pasteur in the spring of 1959, a visit that finally brought us closer together in friendship.

It was a brief visit that allowed little time for the experiments I wanted to do. To gain time, I flew to Orly carrying in my pocket some part-grown bacterial cultures and I deposited them

in the shaker bath in Jacques' laboratory before checking in at the hotel. After a brief nap I did the first experiment that same afternoon. The Service Monod was extremely conducive to work. It was then that I first met many brilliant scientists, residents or guests, whose dedication to research made that laboratory a joy to work in.

Not necessarily pure joy, of course. My experiments at that time dealt with the expression of phage-transduced lactose genes. It was a well-guarded secret (well-guarded from me too) that similar experiments on lactose-transferring episomes were under way in the laboratory, the experiments which later led to the formulation of the operon theory. I suspect that Jacques enjoyed playing a game of cat-and-mouse with me, appearing to predict what my results would be. Only later I found out what had been going on and was a bit sore.

But science was not the most important accomplishment in that brief visit. The windfall was that my real friendship with

Jacques started at that time, cemented by the delightful discovery of the close affinity of our intellectual tastes and beliefs. It was a surprising affinity between two persons so different in background and experiences, except in science. It extended beyond science, and was in fact not centered on science as content but on science as a chosen commitment.

One of our main affinities was our common existentialist persuasion. We shared an intense distrust and dislike of abstract loyalties. We wished our beliefs to be commitments as freely chosen as possible. We viewed loyalties as blank checks, commitments as rationally explored endorsements -- endorsements that are acts of the will and therefore imply active participation.

Jacques Monod used to assert that an existential philosophy is the only philosophy appropriate to scientists. Later, during a year I spent at the Institut Pasteur and still later when I was lecturing at the College de France, the question of the relation

between science and existential philosophy was often the topic of our Saturday morning conversations. We insisted that our commitment to science -- and more generally to the advancement of rational knowledge -- was a choice to be vigorously affirmed but not an absolute value of the human mind. When, in Choice and Necessity, Jacques translated this idea of commitment into the formula of an "ethics of knowledge", some confusion arose. The affirmation of commitment to rational knowledge as ethical choice was interpreted by some critics as an affirmation of rational knowledge as an absolute ethical principle. This issue of ethical theory is one that neither this essay nor its author is particularly suited to clarify. Others may do so elsewhere in this volume.

Incidentally, the photograph that appears with this essay (taken in Jacques' office in December, 1969) might seem to portray two scientists exhibiting the symptoms of their mal existentiel. In reality we were just trying to decide whether to lunch at the Coupole or the Closerie des Lilas.

I recall an earlier meal with Jacques, another landmark in our intellectual convergence. It was breakfast in La Jolla, at a time when Jacques was preparing the draft of his Pomona College lectures, whose text later became the substance of Choice and Necessity. At that time I had become intrigued by Noam Chomsky's ideas about language, and had timidly been "pushing" on Chomsky a genetic and evolutionistic interpretation of the evidence for innate genetic structures. I was delighted, therefore, when one day at breakfast, as we talked of genetics and anthropology, Jacques blurted out (I paraphrase): "I am absolutely convinced that the evolution of the human language structure was the central driving force in human evolution." (Je suis absolument convaincu, incidentally, was a favorite way of Jacques to preface a controversial statement.)

For me it was delightful to discover that our lines of thought, in fact our interest in a new subject, had once more converged by independent and separate ways. Such moments of intellectual

convergence are infinitely precious. They are the seals of friendship, just as the kiss of Paolo and Francesca in Dante's Comedy was the seal of love. What is friendship but a mutual attraction and affinity of two minds, a mutual valuing and being valued, just as love is made of wanting and being wanted?

In his last years Jacques became concerned with the impact of biology on human society, and, characteristically, tried actively to promote the field of bioanthropology. He actually involved me and others, through the Royaumont Center, in a number of ventures in the border area between hard and soft science -- without, I fear, generating a great deal of solid accomplishment. I believe Jacques was inclined to put more confidence in the ethological and sociobiological approaches than I thought was warranted. Even here, however, he was not dogmatically "biologizing" the human predicament, but simply trying to choose and develop a feasible approach. I suspect that for Jacques these activities had actually an additional

function, providing him with an intellectual and social diversion from the concerns of administration and from his separation from day-by-day experimental work.

There was in Jacques' personality a slightly perverse streak. He consciously cultivated a certain ambivalence about issues and about people. He had his vanities, although his sense of humor helped him discriminate attitude from substance, in himself as well as in others. His ambivalence never prevented him, however, from se prendre au serieux when the task at hand warranted it, whether it was war-time resistance, or science, or concern for colleagues and students or for the Institut Pasteur.

I miss him as a man and a friend. Mature age, even after a full life, is a sad time because one's friends start to depart. One loses one's partners in discourse, who provide excitement and validation. More important, one loses the actuality of long lasting friendships. Yet the memory of those friendships is the evidence of existence fulfilled.